

SEPARATION OF SOLID PARTICLE DISPERSED IN PETROLEUM

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Abstract

PURPOSE: To separate and remove solid particles which are dispersed in petroleum and difficult to remove, e.g. residue of catalyst, in high efficiency, by adding and mixing a surface active agent and water to the petroleum.

CONSTITUTION: Petroleum to be purified is added with (A) 0.5-0.001wt% of a surface active agent, pref. a nonionic surface active agent having an HLB value of 8-16, (B) 0.1-10 parts by weight (based on 1 part of the petroleum) of water, and optionally, (C) 1-20 parts by weight (based on 100 parts of water) of a basic metal compound such as sodium carbonate, and (D) a low-viscosity organic solvent having a boiling point of 0-300 deg.C, e.g. light hydrocarbon. The mixture is settled and separated into a petroleum phase and a water phase containing the solid particles. The phase separation is preferably carried out by passing the mixture between electrodes applied with a voltage of 100-2000V/cm.

EFFECT: Especially effective to the separation of colloidal particles having a weight average particle size of $\leq 50\mu$.

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